WEST Search History

DATE: Wednesday, November 20, 2002

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,PGPB,JPAB,DWPI; PLUR=YES; OP=ADJ		
L5	L4 or l2	8	L5
L4	l3 and (knockout or knock out or knock-out or transgen@ or disrupt$ or deficien$)	6	L4
L3	PP2C alpha	8	L3
L2	L1 and (knockout or knock out or knock-out or transgen@ or disrupt$ or deficien$)	6	L2
L1	magnesium dependent protein phosphatase	7	L1

END OF SEARCH HISTORY

```
$%^STN;HighlightOn= ***;HighlightOff=*** ;


Welcome to STN International!  Enter x:x

LOGINID:ssspta1633cxq

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


********** Welcome to STN International **********

 NEWS 1       Web Page URLs for STN Seminar Schedule - N. America
 NEWS 2 Apr 08 "Ask CAS" for self-help around the clock
 NEWS 3 Apr 09 BEILSTEIN: Reload and Implementation of a New Subject Area
 NEWS 4 Apr 09 ZDB will be removed from STN
 NEWS 5 Apr 19 US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
 NEWS 6 Apr 22 Records from IP.com available in CAPLUS, HCAPLUS, and
ZCAPLUS
 NEWS 7 Apr 22 BIOSIS Gene Names now available in TOXCENTER
 NEWS 8 Apr 22 Federal Research in Progress (FEDRIP) now available
 NEWS 9 Jun 03 New e-mail delivery for search results now available
 NEWS 10 Jun 10 MEDLINE Reload
 NEWS 11 Jun 10 PCTFULL has been reloaded
 NEWS 12 Jul 02 FOREGE no longer contains STANDARDS file segment
 NEWS 13 Jul 22 USAN to be reloaded July 28, 2002;
          saved answer sets no longer valid
 NEWS 14 Jul 29 Enhanced polymer searching in REGISTRY
 NEWS 15 Jul 30 NETFIRST to be removed from STN
 NEWS 16 Aug 08 CANCERLIT reload
 NEWS 17 Aug 08 PHARMAMarketLetter(PHARMAML) - new on STN
 NEWS 18 Aug 08 NTIS has been reloaded and enhanced
 NEWS 19 Aug 19 Aquatic Toxicity Information Retrieval (AQUIRE)
          now available on STN
 NEWS 20 Aug 19 IFIPAT, IFICDB, and IFIUDB have been reloaded
 NEWS 21 Aug 19 The MEDLINE file segment of TOXCENTER has been
reloaded
 NEWS 22 Aug 26 Sequence searching in REGISTRY enhanced
 NEWS 23 Sep 03 JAPIO has been reloaded and enhanced
 NEWS 24 Sep 16 Experimental properties added to the REGISTRY file
 NEWS 25 Sep 16 Indexing added to some pre-1967 records in CA/CAPLUS
 NEWS 26 Sep 16 CA Section Thesaurus available in CAPLUS and CA
 NEWS 27 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985
 NEWS 28 Oct 21 EVENTLINE has been reloaded
 NEWS 29 Oct 24 BEILSTEIN adds new search fields
 NEWS 30 Oct 24 Nutraceuticals International (NUTRACEUT) now available on
STN
 NEWS 31 Oct 25 MEDLINE SDI run of October 8, 2002
 NEWS 32 Nov 18 DKILIT has been renamed APOLLIT

 NEWS EXPRESS  October 14 CURRENT WINDOWS VERSION IS V6.01,
          CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
          AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS INTER    General Internet Information
 NEWS LOGIN    Welcome Banner and News Items
 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN Customer
  agreement.  Please note that this agreement limits use to scientific
  research.  Use for software development or design or implementation
  of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.

  ************STN Columbus **************


FILE 'HOME' ENTERED AT 16:23:36 ON 20 NOV 2002

=> FIL BIOSIS EMBASE CAPLUS
COST IN U.S. DOLLARS                SINCE FILE     TOTAL
                                      ENTRY   SESSION
FULL ESTIMATED COST                    0.21      0.21

FILE 'BIOSIS' ENTERED AT 16:23:43 ON 20 NOV 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC.(R)

FILE 'EMBASE' ENTERED AT 16:23:43 ON 20 NOV 2002
COPYRIGHT (C) 2002 Elsevier Science B.V.  All rights reserved.

FILE 'CAPLUS' ENTERED AT 16:23:43 ON 20 NOV 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

=> s magnesium dependent protein phosphatase? or PP2C
L1        558 MAGNESIUM DEPENDENT PROTEIN PHOSPHATASE? OR PP2C

=> s l1 and (knockout or knock out or transgen? or disrupt? or deficien?)
L2         41 L1 AND (KNOCKOUT OR KNOCK OUT OR TRANSGEN? OR
DISRUPT? OR DEFICI
           EN?)

=> dup rem l2
PROCESSING COMPLETED FOR L2
L3         23 DUP REM L2 (18 DUPLICATES REMOVED)

=> d bib abs 1-
YOU HAVE REQUESTED DATA FROM 23 ANSWERS - CONTINUE? Y/(N):y

L3  ANSWER 1 OF 23  CAPLUS  COPYRIGHT 2002 ACS
AN  2002:676207  CAPLUS
DN  137:211941
TI  Yeast cell-lines expressing protein tau and use as neurodegenerative
    disease models
IN  Van Leuven, Freddy; Winderickx, Joris
PA  K.U. Leuven Research & Development, Belg.
SO  PCT Int. Appl., 63 pp.
    CODEN: PIXXD2
DT  Patent
LA  English
FAN.CNT 1
    PATENT NO.      KIND  DATE        APPLICATION NO.  DATE
    --------------- ----  ----------  ---------------  --------
PI  WO 2002068663   A1    20020906    WO 2002-BE22     20020225
      W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
         CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
         HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
         LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL,
         PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
         UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
      RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
         CY, DE, DK; ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
         BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI GB 2001-4685    A   20010226
AB  The present invention involves engineered yeast cell-lines that express
    protein tau, preferably human tau protein, or functional isoforms or
    homologs thereof, to the proteins produced by these cell-lines, to the
    phosphorylation pattern of tau in these cell-lines, and to their
    applications. Further it discloses a process for screening for drugs for
    the therapy of neurodegenerative disease particularly of dementia of the
    Alzheimer type or of the frontotemporal dementia with Parkinsonism, and
    for diagnosis of this dementia by drugs that specifically bind to such
    tau-proteins or that affect tau protein phosphorylation. The present
    invention also concerns different modified yeast cells that express or
    lack different isoforms or mutant forms of human protein tau, in
    combination with expression or ***deficiency*** of human and yeast
    kinases, to allow the reliable and specific prodn. of specified,
    phosphorylated isoforms of protein tau, as present in brain and
    cerebrospinal fluid of Alzheimer patients. The invention furthermore
    concerns the phospho-epitopes of tau protein as present in brain
    homogenates or in body fluids such as cerebrospinal fluid, which are
    recognized by specified monoclonal antibodies, in use or to be produced,
    in the field of Alzheimer's disease. Furthermore, the novel engineered
    yeast cell-lines of present invention are characterized in that they
    specifically produce naturally occurring abnormally phosphorylated tau of
    which the phosphorylation state is confined to a particular specified
    region of the tau mols., or recombinant nonphosphorylated tau which by
    treatment with proline-directed kinases can provoke the phosphorylation
    of, amongst others, Ser-Pro or Thr-Pro sites as specified.
    Proline-directed kinases such as MAP kinases, cdc2 kinases, glycogen
    synthase kinases and cdk5 kinases can be purified from various sources,
    such as genetically engineered yeast strains or can be present in brain
    exts.
RE.CNT 9    THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS
RECORD
        ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3  ANSWER 2 OF 23  CAPLUS  COPYRIGHT 2002 ACS
AN  2002:595545  CAPLUS
DN  137:136158
TI  Protein, gene and cDNA sequences of a novel human phosphatase related to
    PPM1G phosphatase and their uses in drug screening
IN  Wei, Ming-hui; Ketchum, Karen A.; Di Francesco, Valentina; Beasley, Ellen
    M.
PA  USA
SO  U.S. Pat. Appl. Publ., 62 pp., Cont.-in-part of U.S. Ser. No. 752,820.
    CODEN: USXXCO
DT  Patent
LA  English
FAN.CNT 2
    PATENT NO.      KIND  DATE        APPLICATION NO.  DATE
    --------------- ----  ----------  ---------------  --------
PI  US 2002108133   A1    20020808    US 2001-813319   20010321
    US 2002107170   A1    20020808    US 2001-752820   20010103
    WO 2002053752   A2    20020711    WO 2002-US135    20020102
      W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
         CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
         GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
```

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2001-752820 A2 20010103
US 2001-813319 A 20010321
AB The invention provides protein, cDNA and genomic sequences for a novel human phosphatase related to PPM1G phosphatase subfamily. The PPM1G phosphatase gene is expressed in human brain, breast, colon adenocarcinomas, prostate, skin melanotic melanoma, eye retinoblastomas, placenta choriocarcinomas, uterus leiomyosarcomas, lung small cell carcinomas, and leukocytes. Twenty one single nucleotide polymorphism have been identified on the PPM1G phosphatase gene that has been mapped to chromosome 2. The invention also relates to screening modulator of said phosphatase and use them in therapy. The invention further relates to methods, vector and hosts for expression of said phosphatase.

L3 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 2002:556156 CAPLUS
DN 137:120681
TI ***Transgenic*** mice containing ***magnesium*** - ***dependent*** ***protein*** ***phosphatase*** gene ***disruptions*** and their use as disease model for drug screening
IN Allen, Keith
PA USA
SO U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S. Ser. No. 815,935.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2002100070	A1	20020725	US 2001-972741	20011005

PRAI US 2000-191235P P 20000322
US 2000-216249P P 20000706
US 2001-815935 A2 20010322
AB The present invention relates to ***transgenic*** animals, as well as compns. and methods relating to the characterization of gene function. Specifically, the present invention provides ***transgenic*** mice comprising homologous recombination in the gene for ***magnesium*** - ***dependent*** ***protein*** ***phosphatase*** . Such ***transgenic*** mice exhibit lung abnormalities and elevated white blood cell counts consistent with pneumonia and increased anxiety levels with altered behavioral patterns and increased pain thresholds. Such ***transgenic*** mice are useful as models for disease and for identifying agents that modulate gene expression and gene function, and as potential treatments for various disease states and disease conditions.

L3 ANSWER 4 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
1
AN 2002:141452 BIOSIS
DN PREV200200141452
TI Evolution of the ***PP2C*** family in Caenorhabditis: Rapid divergence of the sex-determining protein FEM-2.
AU Stothard, Paul; Hansen, Dave; Pilgrim, Dave (1)
CS (1) Department of Biological Sciences, University of Alberta, Edmonton, Alberta, T6G 2E9: dave.pilgrim@ualberta.ca Canada
SO Journal of Molecular Evolution, (February, 2002) Vol. 54, No. 2, pp. 267-282. http://link.springer.de/link/service/journals/00239/index.htm. print.
ISSN: 0022-2844.
DT Article
LA English
AB To investigate the causes and functional significance of rapid sex-determining protein evolution we compared three Caenorhabditis elegans genes encoding members of the protein phosphatase 2C (***PP2C***) family with their orthologs from another Caenorhabditis species (strain CB5161). One of the genes encodes FEM-2, a sex-determining protein, while the others have no known sex-determining role. FEM-2's ***PP2C*** domain was found to be more diverged than the other ***PP2C*** domains, supporting the notion that sex-determining proteins are subjected to selective pressures that allow for or cause rapid divergence. Comparison of the positions of amino acid substitutions in FEM-2 with a solved three-dimensional structure suggests that the catalytic face of the protein is highly conserved among C. elegans, CB5161, and another closely related species C. briggsae. However, the non-conserved regions of FEM-2 cannot be said to lack functional importance, since fem-2 ***transgenes*** from the other species were unable to rescue the germ-line defect caused by a C. elegans fem-2 mutation. To test whether fem-2 functions as a sex-determining gene in the other Caenorhabditis species we used RNA-mediated interference (RNAi). fem-2 (RNAi) in C. elegans and C. briggsae caused germ-line feminization, but had no noticeable effect in CB5161. Thus the function of fem-2 in CB5161 remains uncertain.

L3 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 2001:693577 CAPLUS
DN 135:268106
TI Plant protoplast gene expression systems and uses in identifying a gene product that modulates expression of a gene of interest
IN Sheen, Jen
PA General Hospital Corporation, USA
SO PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001068920	A1	20010920	WO 2001-US7999	20010313

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRAI US 2000-189074P P 20000313
AB Disclosed are high throughput assays for rapidly screening a library of nucleic acid mols. to identify a gene product that modulates expression of a gene of interest. The assays generally involve introducing into one or more plant protoplasts (i) a reporter gene construct operably linked to a promoter of a gene of interest and (ii) a member of a library of nucleic acid mols., wherein the library member is expressed in the plant protoplasts. The assays further involve screening the protoplasts to det. whether the amt. of gene expression of the reporter gene construct changes in response to the expression of the library member, a change in gene expression of the reporter gene construct identifying the gene product expressed by the library member as one that modulates expression of the gene of interest. The invention demonstrates that the promoters or protein kinases in signaling pathway in plants responsive to heat, H2O2 abscisic acid or auxin.
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
2
AN 2002:161069 BIOSIS
DN PREV200200161069
TI Acquisition of a specific and potent PTP1B inhibitor from a novel combinatorial library and screening procedure.
AU Shen, Kui; Keng, Yen-Fang; Wu, Li; Guo, Xiao-Ling; Lawrence, David S. (1); Zhang, Zhong-Yin
CS (1) Dept. of Biochemistry, Albert Einstein College of Medicine, Yeshiva University, 1300 Morris Park Ave., Bronx, NY, 10461: dlawrenc@aecom.yu.edu, zyzhang@aecom.yu.edu USA
SO Journal of Biological Chemistry, (December 14, 2001) Vol. 276, No. 50, pp. 47311-47319. http://www.jbc.org/. print.
ISSN: 0021-9258.
DT Article
LA English
AB Protein-tyrosine phosphatases (PTPases) form a large family of enzymes that serve as key regulatory components in signal transduction pathways. Defective or inappropriate regulation of PTPase activity leads to aberrant tyrosine phosphorylation, which contributes to the development of many human diseases including cancers and diabetes. For example, recent gene ***knockout*** studies in mice identify PTP1B as a promising target for anti-diabetes/obesity drug discovery. Thus, there is intense interest in obtaining specific and potent PTPase inhibitors for biological studies and pharmacological development. However, given the highly conserved nature of the PTPase active site, it is unclear whether selectivity in PTPase inhibition can be achieved. We describe a combinatorial approach that is designed to target both the active site and a unique peripheral site in PTP1B. Compounds that can simultaneously associate with both sites are expected to exhibit enhanced affinity and specificity. We also describe a novel affinity-based high-throughput assay procedure that can be used for PTPase inhibitor screening. The combinatorial library/high-throughput screen protocols furnished a small molecule PTP1B inhibitor that is both potent (Ki=2.4 nM) and selective (little or no activity against a panel of phosphatases including Yersinia PTPase, SHP1, SHP2, LAR, HePTP, PTPalpha, CD45, VHR, MKP3, Cdc25A, Stp1, and ***PP2C***). These results demonstrate that it is possible to acquire potent, yet highly selective inhibitors for individual members of the large PTPase family of enzymes.

L3 ANSWER 7 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
3
AN 2001:557078 BIOSIS
DN PREV200100557078
TI A ***PP2C*** -type phosphatase dephosphorylates the PII signaling protein in the cyanobacterium Synechocystis PCC 6803.
AU Irmler, Angelika; Forchhammer, Karl (1)
CS (1) Institut fuer Mikrobiologie und Molekularbiologie, Justus-Liebig-Universitaet Giessen, Heinrich-Buff-Ring 26-32, D-35392, Giessen: karl.forchhammer@mikro.bio.uni-giessen.de Germany
SO Proceedings of the National Academy of Sciences of the United States of America, (Nobember 6, 2001) Vol. 98, No. 23, pp. 12978-12983. print.

ISSN: 0027-8424.
DT Article
LA English
SL English
AB The family of the PII signal transduction proteins contains the most highly conserved signaling proteins in nature. The cyanobacterial PII-homologue transmits signals of the cellular nitrogen status and carbon status through phosphorylation of a seryl-residue. To identify the enzyme responsible for dephosphorylation of the phosphorylated PII protein in Synechocystis PCC 6803, prospective phosphatase encoding genes were inactivated by targeted insertion of kanamycin resistance cassettes. ***Disruption*** of ORF sll1771 generates a mutant unable to dephosphorylate PII under various experimental conditions. On the basis of conserved signature motifs, the sll1771 product (termed PphA) is a member of the protein phosphatase 2C (***PP2C***) superfamily, which is characterized by Mg2+/Mn2+-dependent catalytic activity. Biochemical analysis of overexpressed and purified PphA confirms its ***PP2C*** -type enzymatic properties and demonstrated its reactivity toward the phosphorylated PII protein. Thus, PphA is the first protein phosphatase in Synechocystis PCC 6803 for which the physiological substrate and function is known.

L3 ANSWER 8 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
4
AN 2002:284 BIOSIS
DN PREV200200000284
TI Abscisic acid activation of plasma membrane Ca2+ channels in guard cells requires cytosolic NAD(P)H and is differentially ***disrupted*** upstream and downstream of reactive oxygen species production in abi1-1 and abi2-1 protein phosphatase 2C mutants.
AU Murata, Yoshiyuki; Pei, Zhen-Ming; Mori, Izumi C.; Schroeder, Julian (1)
CS (1) Division of Biology, Cell and Developmental Biology-Section, and Center for Molecular Genetics, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA, 92093-0116: julian@ucsd.edu USA
SO Plant Cell, (November, 2001) Vol. 13, No. 11, pp. 2513-2523. print.
ISSN: 1040-4651.
DT Article
LA English
AB The hormone abscisic acid (ABA) regulates stress responses and developmental processes in plants. Calcium-permeable channels activated by reactive oxygen species (ROS) have been shown recently to function in the ABA signaling network in Arabidopsis guard cells. Here, we report that ABA activation of these ICa Ca2+ channels requires the presence of NAD(P)H in the cytosol. The protein phosphatase 2C (***PP2C***) mutant abi1-1 ***disrupted*** ABA activation of ICa channels. Moreover, in abi1-1, ABA did not induce ROS production. Consistent with these findings, in abi1-1, H2O2 activation of ICa channels and H2O2-induced stomatal closing were not ***disrupted*** , suggesting that abi1-1 impairs ABA signaling between ABA reception and ROS production. The abi2-1 mutation, which lies in a distinct ***PP2C*** gene, also ***disrupted*** ABA activation of ICa. However, in contrast to abi1-1, abi2-1 impaired both H2O2 activation of ICa and H2O2-induced stomatal closing. Furthermore, ABA elicited ROS production in abi2-1. These data suggest a model with the following sequence of events in early ABA signal transduction: ABA, abi1-1, NAD(P)H-dependent ROS production, abi2-1, ICa Ca2+ channel activation followed by stomatal closing.

L3 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 2001:316980 CAPLUS
DN 135:74012
TI A new protein phosphatase 2C (FsPP2C1) induced by abscisic acid is specifically expressed in dormant beechnut seeds
AU Lorenzo, Oscar; Rodriguez, Dolores; Nicolas, Gregorio; Rodriguez, Pedro L.; Nicolas, Carlos
CS Departamento de Fisiologia Vegetal, Facultad de Biologia, Universidad de Salamanca, Salamanca, 37007, Spain
SO Plant Physiology (2001), 125(4), 1949-1956
CODEN: PLPHAY; ISSN: 0032-0889
PB American Society of Plant Physiologists
DT Journal
LA English
AB An abscisic acid (ABA)-induced cDNA fragment encoding a putative protein phosphatase 2C (***PP2C***) was obtained by means of differential reverse transcriptase-polymerase chain reaction approach. The full-length clone was isolated from a cDNA library constructed using mRNA from ABA-treated beechnut (Fagus sylvatica) seeds. This clone presents all the features of plant type ***PP2C*** and exhibits homol. to members of this family such as AthPP2CA (61%), ABI1 (48%), or ABI2 (47%), therefore it was named FsPP2C1. The expression of FsPP2C1 is detected in dormant seeds and increases after ABA treatment, when seeds are maintained dormant, but it decreases and tends to disappear when dormancy is being released by stratification or under gibberellic acid treatment. Moreover, drought stress seems to have no effect on FsPP2C1 transcript accumulation. The FsPP2C1 transcript expression is tissue specific and was found to accumulate in ABA-treated seeds rather than in other ABA-treated vegetative tissues examd. These results suggest that the corresponding protein could be related to ABA-induced seed dormancy. By expressing FsPP2C1 in Escherichia coli as a histidine tag fusion protein, we have obtained direct biochem. evidence supporting Mg2+-dependent phosphatase activity of this protein.
RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
5
AN 2001:344842 BIOSIS
DN PREV200100344842
TI Antisense inhibition of protein phosphatase 2C accelerates cold acclimation in Arabidopsis thaliana.
AU Tahtiharju, Sari; Palva, Tapio (1)
CS (1) Department of Biosciences, Division of Genetics, University of Helsinki, FIN-00014, Helsinki: Tapio.Palva@helsinki.fi Finland
SO Plant Journal, (May, 2001) Vol. 26, No. 4, pp. 461-470. print.
ISSN: 0960-7412.
DT Article
LA English
SL English
AB Two related protein phosphatases 2C, ABI1 and AtPP2CA have been implicated as negative regulators of ABA signalling. In this study we characterized the role of AtPP2CA in cold acclimation. The pattern of expression of AtPP2CA and ABI1 was studied in different tissues and in response to abiotic stresses. The expression of both AtPP2CA and ABI1 was induced by low temperature, drought, high salt and ABA. The cold and drought-induced expression of these genes was ABA-dependent, but divergent in various ABA signalling mutants. In addition, the two ***PP2C*** genes exhibited differences in their tissue-specific expression as well as in temporal induction in response to low temperature. To elucidate the function of AtPP2CA in cold acclimation further, the corresponding gene was silenced by antisense inhibition. ***Transgenic*** antisense plants exhibited clearly accelerated development of freezing tolerance. Both exposure to low temperature and application of ABA resulted in enhanced freezing tolerance in antisense plants. These plants displayed increased sensitivity to ABA both during development of frost tolerance and during seed germination, but not in their drought responses. Furthermore, the expression of cold-and ABA-induced genes was enhanced in ***transgenic*** antisense plants. Our results suggest that AtPP2CA is a negative regulator of ABA responses during cold acclimation.

L3 ANSWER 11 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
6
AN 2001:302096 BIOSIS
DN PREV200100302096
TI Molecular cloning and characterization of a rice ***PP2C*** , OsPP2C4.
AU Yang, Kiyoung; Jeong, Dong-Hoon; Jang, Seonghoe; An, Gynheung (1)
CS (1) National Research Laboratory of Plant Functional Genomics, Division of Molecular and Life Sciences, Pohang University of Science and Technology, Pohang, 790-784: genean@postech.ac.kr South Korea
SO Journal of Plant Biology, (March, 2001) Vol. 44, No. 1, pp. 1-6. print.
ISSN: 1226-9239.
DT Article
LA English
SL English
AB Protein phosphorylation and dephosphorylation are major regulatory mechanisms that cells use to transmit signals from their extracellular environment to the interior. Up to now, two structurally distinct groups of ser/thr phosphatases are known of: the PP1/PP2A family and the ***PP2C*** family. Here, we focus our efforts to reveal the functions of the ***PP2C*** family in rice. It has been known that ***PP2C*** has diverse functions related to developments and stress responses. We have obtained a rice EST clone, OsPP2C4, that contained the highly conserved ***PP2C*** motifs. RNA gel-blot analysis showed that OsPP2C4 was expressed highly in panicles, while it was expressed weakly in seedling leaves, seedling roots, and mature leaves. Assay of the ***PP2C*** enzyme activity with a substrate, para-nitrophenyl phosphate, showed that OsPP2C4 encoded an active ***PP2C*** . ***Transgenic*** plants expressing the antisense construct of this clone were generated to study the functional roles of the ***PP2C*** clone in rice.

L3 ANSWER 12 OF 23 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
AN 2000140486 EMBASE
TI Involvement of the ***PP2C*** -like phosphatase Ptc2p in the DNA checkpoint pathways of Saccharomyces cerevisiae.
AU Marsolier M.-C.; Roussel P.; Leroy C.; Mann C.
CS M.-C. Marsolier, Svc. de Biochimie/Genetique Molec., Bat. 142, CEA/Saclay, F-91191 Gif-Sur-Yvette Cedex, France. marsolie@jonas.saclay.cea.fr
SO Genetics, (2000) 154/4 (1523-1532).
Refs: 55
ISSN: 0016-6731 CODEN: GENTAE
CY United States
DT Journal; Article
FS 004 Microbiology
022 Human Genetics
LA English
SL English
AB RAD53 encodes a conserved protein kinase that acts as a central transducer in the DNA damage and the DNA replication checkpoint pathways in Saccharomyces cerevisiae. To identify new elements of these pathways acting with or downstream of RAD53, we searched for genes whose overexpression suppressed the toxicity of a dominant-lethal form of RAD53 and identified PTC2, which encodes a protein phosphatase of the ***PP2C*** family. PTC2 overexpression induces hypersensitivity to

genotoxic agents in wild-type cells and is lethal to rad53, mec1, and dun1 mutants with low ribonucleotide reductase activity. Deleting PTC2 specifically suppresses the hydroxyurea hypersensitivity of mec1 mutants and the lethality of mec1.DELTA.. PTC2 is thus implicated in one or several functions related to RAD53, MEC1, and the DNA checkpoint pathways.

L3 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1999:681042 CAPLUS
DN 132:90664
TI Mitogen-activated protein kinase and abscisic acid signal transduction
AU Heimovaara-Dijkstra, Sjoukje; Testerink, Christa; Wang, Mei
CS TNO Department of Plant Biotechnology, Center for Phytotechnology RUL/TNO, Leiden, 2333 AL, Neth.
SO Results and Problems in Cell Differentiation (2000), 27(MAP Kinases in Plant Signal Transduction), 131-144
CODEN: RCLDAT; ISSN: 0080-1844
PB Springer-Verlag
DT Journal; General Review
LA English
AB A review with 68 refs. The phytohormone abscisic acid (ABA) is a classical plant hormone, responsible for regulation of abscission, diverse aspects of plant and seed development, stress responses and germination. It was found that ABA signal transduction in plants can involve the activity of type 2C-phosphatases (***PP2C***), calcium, potassium, pH and a transient activation of MAP kinase. The ABA signal transduction cascades have been shown to be tissue-specific, the transient activation of MAP kinase has until now only been found in barley aleurone cells. However, type 2C phosphatases are involved in the induction of most ABA responses, as shown by the ***PP2C*** - ***deficient*** abi mutants. These phosphatases show high homol. with phosphatases that regulate MAP kinase activity in yeast. In addn., the role of farnesyl transferase as a neg. regulator of ABA responses also indicates towards involvement of MAP kinase in ABA signal transduction. Farnesyl transferase is known to regulate Ras proteins, Ras proteins in turn are known to regulate MAP kinase activation. Interestingly, Ras-like proteins were detected in barley aleurone cells. Further establishment of the involvement of MAP kinase in ABA signal transduction and its role therein, still awaits more study.
RE.CNT 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 14 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
7
AN 2000:49628 BIOSIS
DN PREV200000049628
TI Dephosphorylation of cyclin-dependent kinases by type 2C protein phosphatases.
AU Cheng, Aiyang; Ross, Karen E.; Kaldis, Philipp; Solomon, Mark J. (1)
CS (1) Molecular Biophysics and Biochemistry, Yale University School of Medicine, New Haven, CT USA
SO Genes & Development, (Nov. 15, 1999) Vol. 13, No. 22, pp. 2946-2957.
ISSN: 0890-9369.
DT Article
LA English
SL English
AB Activating phosphorylation of cyclin-dependent protein kinases (CDKs) is necessary for their kinase activity and cell cycle progression. This phosphorylation is carried out by the Cdk-activating kinase (CAK); in contrast, little is known about the corresponding protein phosphatase. We show that type 2C protein phosphatases (PP2Cs) are responsible for this dephosphorylation of Cdc28p, the major budding yeast CDK. Two yeast PP2Cs, Ptc2p and Ptc3p, display Cdc28p phosphatase activity in vitro and in vivo, and account for apprx90% of Cdc28p phosphatase activity in yeast extracts. Overexpression of PTC2 or PTC3 results in synthetic lethality in strains temperature-sensitive for yeast CAK1, and ***disruptions*** of PTC2 and PTC3 suppress the growth defect of a cak1 mutant. Furthermore, ***PP2C*** -like enzymes are the predominant phosphatases toward human Cdk2 in HeLa cell extracts, indicating that the substrate specificity of PP2Cs toward CDKs is evolutionarily conserved.

L3 ANSWER 15 OF 23 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
AN 1999292543 EMBASE
TI Vacuole fusion regulated by protein phosphatase 2C in fission yeast.
AU Gaits F.; Russell P.
CS P. Russell, Department of Molecular Biology, Scripps Research Institute, San Diego, CA 92037, United States. prussell@scripps.edu
SO Molecular Biology of the Cell, (1999) 10/8 (2647-2654).
Refs: 31
ISSN: 1059-1524 CODEN: MBCEEV
CY United States
DT Journal; Article
FS 004 Microbiology
LA English
SL English
AB The gene ptc4+ encodes one of four type 2C protein phosphatases (***PP2C***) in the fission yeast Schizosaccharomyces pombe. Deletion of ptc4+ is not lethal; however, .DELTA.ptc4 cells grow slowly in defined minimal medium and undergo premature growth arrest in response to nitrogen starvation. Interestingly, .DELTA.ptc4 cells are unable to fuse vacuoles in response to hypotonic stress or nutrient starvation. Conversely, Ptc4 overexpression appears to induce vacuole fusion. These findings reveal a hitherto unrecognized function of type 2C protein phosphatases: regulation of vacuole fusion. Ptc4 localizes in vacuole membranes, which suggests that Ptc4 regulates vacuole fusion by dephosphorylation of one or more proteins in the vacuole membrane. Vacuole function is required for the process of autophagy that is induced by nutrient starvation; thus, the vacuole defect of .DELTA.ptc4 cells might explain why these cells undergo premature growth arrest in response to nitrogen starvation.

L3 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1999:714358 CAPLUS
DN 132:33262
TI ABI1 protein phosphatase 2C is a negative regulator of abscisic acid signaling
AU Gosti, Francoise; Beaudoin, Nathalie; Serizet, Carine; Webb, Alex A. R.; Vartanian, Nicole; Giraudat, Jerome
CS Institut des Sciences Vegetales, Centre National de la Recherche Scientifique UPR 40, Gif-sur-Yvette, 91190, Fr.
SO Plant Cell (1999), 11(10), 1897-1909
CODEN: PLCEEW; ISSN: 1040-4651
PB American Society of Plant Physiologists
DT Journal
LA English
AB The plant hormone abscisic acid (ABA) is a key regulator of seed maturation and germination and mediates adaptive responses to environmental stress. In Arabidopsis, the ABI1 gene encodes a member of the 2C class of protein serine/threonine phosphatases (***PP2C***), and the abi1-1 mutation markedly reduces ABA responsiveness in both seeds and vegetative tissues. However, this mutation is dominant and has been the only mutant allele available for the ABI1 gene. Hence, it remained unclear whether ABI1 contributes to ABA signaling, and in case ABI1 does regulate ABA responsiveness, whether it is a pos. or neg. regulator of ABA action. In this study, seven novel alleles of the ABI1 gene were isolated as intragenic revertants of the abi1-1 mutant. In contrast to the ABA-resistant abi1-1 mutant, these revertants were more sensitive than the wild type to the inhibition of seed germination and seedling root growth by applied ABA. They also displayed increases in seed dormancy and drought adaptive responses that are indicative of a higher responsiveness to endogenous ABA. The revertant alleles were recessive to the wild-type ABI1 allele in enhancing ABA sensitivity, indicating that this ABA-supersensitive phenotype results from a loss of function in ABI1. The seven suppressor mutations are missense mutations in conserved regions of the ***PP2C*** domain of ABI1, and each of the corresponding revertant alleles encodes an ABI1 protein that lacked any detectable ***PP2C*** activity in an in vitro enzymic assay. These results indicate that a loss of ABI1 ***PP2C*** activity leads to an enhanced responsiveness to ABA. Thus, the wild-type ABI1 phosphatase is a neg. regulator of ABA responses.
RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 17 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
8
AN 1999:145761 BIOSIS
DN PREV199900145761
TI A protein phosphatase 2C gene, LjNPP2C1, from Lotus japonicus induced during root nodule development.
AU Kapranov, Philipp; Jensen, Trine Juul; Poulsen, Carsten; De Bruijn, Frans J. (1); Szczyglowski, Krzysztof
CS (1) Mich. State Univ., Dep. Energy Plant Res. Lab., Mich. State Univ., East Lansing, MI 48824 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (Feb. 16, 1999) Vol. 96, No. 4, pp. 1738-1743.
ISSN: 0027-8424.
DT Article
LA English
AB Symbiotic interactions between legumes and compatible strains of rhizobia result in root nodule formation. This new plant organ provides the unique physiological environment required for symbiotic nitrogen fixation by the bacterial endosymbiont and assimilation of this nitrogen by the plant partner. We have isolated two related genes (LjNPP2C1 and LjPP2C2) from the model legume Lotus japonicus that encode protein phosphatase type 2C (***PP2C***). Expression of the LjNPP2C1 gene was found to be enhanced specifically in L. japonicus nodules, whereas the LjPP2C2 gene was expressed at a similar level in nodules and roots. A glutathione S-transferase-LjNPP2C1 fusion protein was shown to have Mg2+- or Mn2+-dependent and okadaic acid-insensitive ***PP2C*** activity in vitro. A chimeric construct containing the full-length LjNPP2C1 cDNA, under the control of the Saccharomyces cerevisiae alcohol dehydrogenase promoter, was found to be able to complement a yeast ***PP2C*** - ***deficient*** mutant (pct1DELTA). The transcript level of the LjNPP2C1 gene was found to increase significantly in mature nodules, and its highest expression level occurred after leghemoglobin (lb) gene induction, a molecular marker for late developmental events in nodule organogenesis. Expression of the LjNPP2C1 gene was found to be drastically altered in specific L. japonicus lines carrying monogenic-recessive mutations in symbiosis-related loci, suggesting that the product of the LjNPP2C1 gene may function at both early and late stages of nodule development.

L3 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1999:246171 CAPLUS

DN 131:83892
TI Tissue- and environmental response-specific expression of 10 ***PP2C*** transcripts in Mesembryanthemum crystallinum
AU Miyazaki, S.; Koga, R.; Bohnert, H. J.; Fukuhara, T.
CS Laboratory of Molecular and Cellular Biology, Tokyo University of Agriculture and Technology, Tokyo, 183-8509, Japan
SO Molecular and General Genetics (1999), 261(2), 307-316
CODEN: MGGEAE; ISSN: 0026-8925
PB Springer-Verlag
DT Journal
LA English
AB Ten transcripts (Mpc1-10) homologous to protein phosphatases of the 2C family have been isolated from the halophyte Mesembryanthemum crystallinum (common ice plant). Transcripts range in size from 1.6 to 2.6 kb, and encode proteins whose catalytic domains are between 24% and 62% identical to that of the Arabidopsis ***PP2C*** , ABI1. Transcript expression is tissue specific. Two isoforms are present only in roots (Mpc1 and Mpc5), three in young leaves (Mpc6, 8 and 9), two in old leaves (Mpc6 and Mpc8), and two in post-flowering leaves (Mpc8 and Mpc9). Mpc2 is strongly expressed in roots and also in seeds, meristematic tissues and mature flowers. Mpc3 is specific for leaf meristems, and Mpc4 is found in root and leaf meristems. Mpc7 is restricted to meristematic tissues. Mpc10 is only present in mature flowers. Mpc2 (in roots and leaves), Mpc5 (in roots) and Mpc8 (weakly in leaves) are induced by salinity stress and drought conditions with different kinetics in different tissues, but other Mpcs are downregulated by stress. Cold stress (4.degree.C) leads to a decline in Mpc5 and Mpc6, but low temp. provoked a longterm (days) increase in Mpc2 levels in leaves and a transient increase (less than 24 h) in roots. Four full-length transcripts have been obtained. In each case, after over-expression in E. coli, the isolated proteins exhibited (Mg2+-dependent, okadeic acid-insensitive) protein phosphatase activity, although activity against 32P-phosphocasein varied among different PP2Cs. Detn. of tissue developmental and stress response specificity of ***PP2C*** will facilitate functional studies of signal-transducing enzymes in this halophytic organism.
RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1997:321436 CAPLUS
DN 126:292021
TI Manipulation and detection of protein phosphatase 2c expression in tumor cells for cancer therapy, prevention and detection
IN Lavi, Sara
PA Ramot-University Authority for Applied Research And Industrial Development Ltd., Israel; Lavi, Sara
SO PCT Int. Appl., 101 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9710796	A2	19970327	WO 1996-IB1021	19960830
WO 9710796	A3	19970619		
W: AL, AU, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9669980	A1	19970409	AU 1996-69980	19960830
AU 723055	B2	20000817		
CN 1194667	A	19980930	CN 1996-196623	19960830
EP 876507	A2	19981111	EP 1996-931190	19960830
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
JP 11512294	T2	19991026	JP 1996-512533	19960830
PRAI US 1995-3114P	P	19950901		
WO 1996-IB1021	W	19960830		

AB A method of detecting cancer in a patient by detecting alteration of activity of the gene coding for human protein phosphatase 2C (***PP2C*** .alpha. and ***PP2C*** .beta.) and genetic polymorphisms thereof in a specimen isolated from the patient is disclosed. The invention further provides a method of treating cancer including the steps of first detg. the type of cancer and cells expressing the cancer and then prepg. a vector which will specifically target the cancer cells and can include regulatory elements to control the expressibility of ***PP2C*** .alpha.. The vector is then administered to the patient. Alternatively an antisense vector can be prepd. When SV40-transformed cells (CO60, OD4, or DA3 cells) were infected with recombinant adeno-assocd. virus (AAV), aspects of the neoplastic phenotype were suppressed. When cellular DNA at the integration site was used as a probe, a homologous site on human chromosome 19q13.3 was discovered. This site is part of the gene encoding ***PP2C*** .alpha.. When ***PP2C*** .alpha. was expressed in the SV40-transformed cells, the transformed phenotype was rescued. AAV integration also suppressed SV40 amplification. An AAV element responsible for this behavior, called a silencer, was identified and sequenced. Anti- ***PP2C*** .alpha. antibodies indicated that several isoenzymes of ***PP2C*** .alpha. exist. ***PP2C*** .alpha. is proposed to dephosphorylate RNA polymerase II and thus regulate initiation of mRNA synthesis.

L3 ANSWER 20 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
9
AN 1995:162715 BIOSIS
DN PREV199598177015
TI Counteractive roles of protein phosphatase 2C (***PP2C***) and a MAP kinase kinase homolog in the osmoregulation fission yeast.
AU Shiozaki, Kazuhiro; Russell, Paul (1)
CS (1) Dep. Cell Biol., Scripps Res. Inst., 10666 North Torrey Pines Road, La Jolla, CA 92037 USA
SO EMBO (European Molecular Biology Organization) Journal, (1995) Vol. 14, No. 3, pp. 492-502.
ISSN: 0261-4189.
DT Article
LA English
AB With the goal of discovering the cellular functions of type 2C protein phosphatases, we have cloned and analyzed two ptc (phosphatase two C) genes, ptc2+ and ptc3+, from the fission yeast Schizosaccharomyces pombe. Together with the previously identified ptc1+ gene, the enzymes encoded by these genes account for apprx 90% of the measurable ***PP2C*** activity in fission yeast cells. No obvious growth defects result from individual ***disruptions*** of ptc genes, but a DELTA-ptc1 DELTA-ptc3 double mutant displays aberrant cell morphology and temperature-sensitive cell lysis that is further accentuated in a DELTA-ptc1 DELTA-ptc2 DELTA-ptc3 triple mutant. These phenotypes are almost completely suppressed by the presence of osmotic stabilizers, strongly indicating that ***PP2C*** has an important role in osmoregulation. Genetic suppression of DELTA-ptc1 DELTA-ptc3 lethality identified two loci, mutations of which render cells hypersensitive to high. osmolarity media. One locus is identical to wis1+, encoding a MAP kinase kinase (MEK) homolog. The Wis1 sequence is most closely related to the Saccharomyces cerevisiae MEK encoded by PBS2, which is required for osmoregulation. These data indicate that divergent yeasts have functionally conserved MAP kinase pathways, which are required to increase intracellular osmotic concentrations in response to osmotic stress. Moreover, our observations implicate ***PP2C*** enzymes as also having an important role in signal transduction processes involved in osmoregulation, probably acting to negatively regulate the osmo-sensing signal that is transmitted through Wis1 MAP kinase kinase.

L3 ANSWER 21 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
10
AN 1995:26534 BIOSIS
DN PREV199598040834
TI Cellular function of protein phosphatase 2C in yeast.
AU Shiozaki, Kazuhiro; Russell, Paul (1)
CS (1) Dep. Molecular, Scripps Res. Inst., 10666 North Torrey Pines Road, La Jolla, CA 92037 USA
SO Cellular & Molecular Biology Research, (1994) Vol. 40, No. 3, pp. 241-243.
DT Article
LA English
AB Protein phosphatase 2C (***PP2C***) is one of four major classes of protein serine/threonine-phosphatases, which requires Mg-2+ for its activity. ***PP2C*** activity distributes ubiquitously among eukaryotes and enzymes purified from mammalian tissues were well characterized biochemically, however, very little is known about their biological function. We have been trying to identify cellular function of ***PP2C*** by genetic analyses in fission yeast Schizosaccharomyces pombe. So far three ***PP2C*** homologs, ptc1+, ptc2+, and ptc3+ have been cloned and their activity were detected in the S. pombe (cell lysates. Experiments using ptc mutants constructed by gene ***disruption*** technique have revealed the involvement of ***PP2C*** in the heat shock response and possibly osmoregulation in yeast cells.

L3 ANSWER 22 OF 23 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE
11
AN 1993:478288 BIOSIS
DN PREV199396111888
TI Mutations in a protein tyrosine phosphatase gene (PTP2) and a protein serine/threonine phosphatase gene (PTC1) cause a synthetic growth defect in Saccharomyces cerevisiae.
AU Maeda, Tatsuya; Tsai, Alex Y. M.; Saito, Haruo (1)
CS (1) Div. Tumor Immunol., Dana-Farber Cancer Inst., Harvard Med. Sch., Boston, MA 02115 USA
SO Molecular and Cellular Biology, (1993) Vol. 13, No. 9, pp. 5408-5417.
ISSN: 0270-7306.
DT Article
LA English
AB Two protein tyrosine phosphatase genes, PTP1 and PTP2, are known in Saccharomyces cerevisiae. However, the functions of these tyrosine phosphatases are unknown, because mutations in either or both phosphatase genes have no clear phenotypic effects. In this report, we demonstrate that although ptp2 has no obvious phenotype by itself, it has a profound effect on cell growth when combined with mutations in a novel protein phosphatase gene. Using a colony color sectoring assay, we isolated 25 mutants in which the expression of PTP1 or PTP2 is required for growth. Complementation tests of the mutants showed that they have a mutation in one of three genes. Cloning and sequence determination of one of these gene, PTC1, indicated that it encodes a homolog of the mammalian protein serine/threonine phosphatase 2C (***PP2C***). The amino acid sequence of the PTC1 product is apprx 35% identical to ***PP2C*** .

Disruption of PTC1 indicated that the PTC1 function is nonessential. In contrast, ptc1 ptp2 double mutants showed a marked growth defect. To examine whether PTC1 encodes an active protein phosphatase, a glutathione S-transferase (GST)-PTC1 fusion gene was constructed and expressed in Escherichia coli. Purified GST-PTC1 fusion protein hydrolyzed a serine phosphorylated substrate in the presence of the divalent cation Mg-2+ or Mn-2+. GST-PTC1 also had weak (apprx 0.5% of its serine phosphatase activity) protein tyrosine phosphatase activity.

L3 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1990:193204 CAPLUS
DN 112:193204
TI P2 antigen of Haemophilies, its gene cloning and expression, and its use as vaccine against Haemophilies influenza type B
IN Hansen, Eric J.
PA University of Texas System, USA
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 320289	A1	19890614	EP 1988-311691	19881209
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AU 8826474	A1	19890615	AU 1988-26474	19881201
AU 623353	B2	19920514		
JP 02002357	A2	19900108	JP 1988-312785	19881209
US 5380655	A	19950110	US 1992-835092	19920211
AU 9211325	A1	19920507	AU 1992-11325	19920228
AU 636529	B2	19930429		
PRAI US 1987-131143		19871210		
US 1988-249482		19880923		

AB Gene encoding p2 antigen of Haemophilus influenza type b (HIb) is cloned, sequenced, and used to manuf. p2 antigen. The gene for p2 antigen of H1b was cloned from two different strain of HIb DL41 and 42 by known means. Plasmid pEJH 39-1 contg. the gene was subjected to transform DB117, a recombinaation- ***deficient*** strain. The transformants DB117 (pEJH 39-1) produced p2 antigen (mol. wt. 39 kilodalton by SDS PAGE) that was not found in untransformed DB117 or transformants DB117 (pGJB 103). Isolation and purifn. of the P2 antigen from the culture broth of HIb DL42 was given.

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	SESSION	TOTAL
FULL ESTIMATED COST		77.64	77.85

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	SESSION	TOTAL
CA SUBSCRIBER PRICE		-6.20	-6.20

STN INTERNATIONAL LOGOFF AT 16:32:54 ON 20 NOV 2002